

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re PATENT APPLICATION of

**ELLIS**

Client Ref: GNC16CON1

Appln. No.: Unassigned

Group Art Unit: Unknown

Filed: Herewith

Examiner: Unknown

Title: GLOBAL NETWORK COMPUTERS

June 20, 2001

**PRELIMINARY AMENDMENT**

Hon. Commissioner of Patents  
Washington, D.C. 20231

Sir:

Prior to examination on the merits, kindly enter the following amendments.

**IN THE SPECIFICATION:**

Kindly replace the paragraph on page 1 with the following amended paragraph:

This application is a continuation of U.S. Patent Application No. 09/315,026, filed May 20, 1999, which receives the benefit of priority from provisional applications 60/134,552, filed May 17, 1999, 60/086,516, filed May 22, 1998, 60/086,588 filed May 22, 1998, 60/086,948, filed May 27, 1998, 60/087,587, filed June 1, 1998, and 60/088,459, filed June 8, 1998. U.S. Patent Application No. 09/315,026 is a continuation-in-part of U.S. Patent Application 09/213,875, filed December 17, 1998, which receives the benefit of priority of provisional application 60/068,366, filed December 19, 1997, and which is a continuation-in-part of U.S. Patent Application 08/980,058, filed November 26, 1997, which receives the benefit of priority of provisional application 60/066,415, filed November 24, 1997, provisional application 60/066,313, filed November 21, 1997, provisional application 60/033,871, filed December 20,

1996, provisional application 60/032,207 filed December 2, 1996, and provisional application 60/031,855, filed November 29, 1996. U.S. Patent Application No. 09/315,026 is also a continuation-in-part of PCT application PCT/US98/27058, filed December 17, 1998 and designating the United States. PCT/US98/27058 receives the benefit of provisional application 60/068,366, filed December 19, 1997. U.S. Patent Application No. 09/315,026 is also a continuation-in part of PCT application PCT/US97/21812, filed November 28, 1997 and designating the United States. PCT/US97/21812 receives the benefit of priority of provisional application 60/066,415, filed November 24, 1997, provisional application 60/066,313, filed November 21, 1997, provisional application 60/033,871, filed December 20, 1996, provisional application 60/032,207 filed December 2, 1996, and provisional application 60/031,855, filed November 29, 1996. PCT/US97/21812 is a continuation-in-part of U.S. Patent Application 08/980,058, whose priority is discussed above. U.S. Patent Application No. 09/315,026 is also a continuation-in-part of U.S. Patent Application 09/085,755, filed May 21, 1998.

**IN THE CLAIMS:**

Kindly cancel claims 1-40 without prejudice or disclaimer.

Kindly add new claims 41-129 as follows:

41. (New) A personal computer configured to operate in a network including computers, comprising:
- a personal computer (PC) system on a chip,
  - said personal computer system being substantially contained in a single PC system microchip,
  - said personal computer including a plurality of microprocessors on said PC system microchip.

42. (New) The personal computer of claim 41, wherein at least two of said microprocessors are used for parallel processing.

43. (New) The personal computer of claim 42, wherein said personal computer includes a random access memory (RAM), said RAM being substantially located on said PC system microchip.

44. (New) The personal computer of claim 43, wherein substantially all of said RAM of said personal computer is located on said PC system microchip.

45. (New) The personal computer of claim 43, wherein said RAM located on said PC system microchip comprises non-cache memory.

46. (New) The personal computer of claim 42, wherein said personal computer includes a wireless network connection mechanism configured to connect said personal computer to said network.

47. (New) The personal computer of claim 42, wherein said personal computer includes an optical fiber network connection mechanism configured to connect said personal computer to said network.

48. (New) The personal computer of claim 47, wherein said optical fiber network connection mechanism is configured to process a fiber optic signal that is wave division multiplexed.

49. (New) The personal computer of claim 47, wherein said optical fiber network connection mechanism includes an optical switch.

50. (New) The personal computer of claim 49, wherein said optical fiber network connection mechanism includes an all-optical switch.

51. (New) The personal computer of claim 47, wherein said personal computer includes an optical omniguide network connection mechanism configured to connect said personal computer to said network.

52. (New) The personal computer of claim 42, wherein said personal computer includes a wireless network connection mechanism and an optical network connection mechanism, said connection mechanisms being configured to connect said personal computer to said network.

53. (New) The personal computer of claim 42, wherein said personal computer includes a processing mechanism configured to function in a shared operation with another computer.

54. (New) The personal computer of claim 53, wherein said personal computer and said other computer both have a substantially homogeneous PC architecture.

55. (New) The personal computer of claim 53, wherein said shared operation involves at least said personal computer and a second computer connected to said network, said shared

operation involving the provision and use of shared services by at least said personal computer  
and said second computer,

wherein a respective portion of said shared operation is allocated between at least said  
personal computer and said second computer by an allocation mechanism.

56. (New) The personal computer of claim 55, wherein said shared services involve  
compensation.

57. (New) The personal computer of claim 56, wherein said compensation is  
financial.

58. (New) The personal computer of claim 55, wherein said shared services include  
shared file resources.

59. (New) The personal computer of claim 55, wherein said shared services include  
parallel processing.

60. (New) The personal computer of claim 55, wherein said shared services include  
multi-tasking.

61. (New) The personal computer of claim 55, wherein said shared services include  
distributed processing.

62. (New) The personal computer of claim 61, wherein said network includes an  
Internet.

63. (New) The personal computer of claim 62, wherein said network includes an Internet Service Provider.

64. (New) The personal computer of claim 61, wherein said network includes a World Wide Web.

65. (New) The personal computer of claim 61, wherein said network includes an Intranet.

66. (New) The personal computer of claim 42, wherein said PC system microchip includes a firewall.

67. (New) The personal computer of claim 66, wherein said PC system microchip includes a firewall configured to protect a single microprocessor.

68. (New) The personal computer of claim 67, wherein said microprocessor firewall denies all access to said microprocessor by said network.

69. (New) The personal computer of claim 42, wherein said personal computer is intended for personal use by at least one of an individual owner and a leaser of said personal computer.

70. (New) The personal computer of claim 42, wherein said personal computer includes a connection from said personal computer to said network, said connection having a

speed of data transmission that is greater than a peak data processing speed of said personal computer.

71. (New) The personal computer of claim 42, wherein said personal computer is controlled by a user of said personal computer through a wireless controller operated by said user.

72. (New) The personal computer of claim 42, wherein said network includes a network server computer.

73. (New) The personal computer of claim 42, wherein said PC system microchip substantially provides a graphics function of said personal computer.

74. (New) The personal computer of claim 42, wherein said PC system microchip includes a component which substantially provides a power management function of said personal computer.

75. (New) The personal computer of claim 42, wherein said PC system microchip includes a digital signal processor component of said personal computer.

76. (New) The personal computer of claim 42, wherein said PC system microchip includes a modem component of said personal computer.

77. (New) The personal computer of claim 42, wherein said PC system microchip substantially provides a sound function of said personal computer.

78. (New) The personal computer of claim 42, wherein said PC system microchip includes a component which substantially provides a network communications function of said personal computer.

79. (New) The personal computer of claim 42, wherein said PC system microchip includes a component which substantially provides a video function of said personal computer.

80. (New) The personal computer of claim 42, wherein said PC system microchip includes a flash memory component of said personal computer.

81. (New) The personal computer of claim 42, wherein said PC system microchip includes a non-volatile memory component of said personal computer.

82. (New) The personal computer of claim 42, wherein said PC system microchip includes a magnetic memory component of said personal computer.

83. (New) The personal computer of claim 42, wherein said PC system microchip includes a BIOS (basic input/output system) component of said personal computer.

84. (New) The personal computer of claim 83, wherein said BIOS is located on a flash memory component of said personal computer.



85. (New) The personal computer of claim 42, wherein said PC system microchip includes a system bus of said personal computer.

86. (New) The personal computer of claim 42, wherein said PC system microchip includes a transponder.

87. (New) The personal computer of claim 42, wherein said personal computer includes one of an application-specific computer, a network computer, a handheld personal digital assistant, a personal communication device, a wearable computer, a digital signal processor, an entertainment device, a video tape recorder, a video game, a videocam, an optical data recording device, a radio, a camera, a household electronic device, a business electronic device, an automobile, a transportation device, and a robot.

88. (New) The personal computer of claim 87, wherein said application-specific computer includes an appliance computer.

89. (New) The personal computer of claim 87, wherein said personal communication device includes one of a telephone and a pager.

90. (New) The personal computer of claim 87, wherein said entertainment device includes one of a television and a digital set-top control box.

91. (New) The personal computer of claim 87, wherein said optical data recording device includes one of a compact disc (CD) and a digital video disk (DVD) player/recorder.

92. (New) The personal computer of claim 87, wherein said business electronic device includes one of a printer, a copier, and a fax machine.

93. (New) The personal computer of claim 42, wherein said personal computer includes one of a mainframe computer, a minicomputer, a workstation, and a supercomputer.

94. (New) The personal computer of claim 42, wherein said personal computer includes one of a digital computer, an analog computer, and a neural computer.

95. (New) The personal computer of claim 42, wherein a system bus of said personal computer includes a hierarchical connection architecture between at least some of said microprocessors.

96. (New) The personal computer of claim 95, wherein said system bus includes a binary tree network architecture between at least some of said microprocessors.

97. (New) The personal computer of claim 95, wherein said network includes a hierarchical connection architecture between at least some of a plurality of personal computers in said network.

98. (New) The personal computer of claim 97, wherein said network defaults to a binary tree network architecture.

99. (New) The personal computer of claim 42, wherein said personal computer includes a direct optical fiber connection to said microchip.

100. (New) The personal computer of claim 42, wherein at least some of said microprocessors have a non-superscalar architecture.

101. (New) The personal computer of claim 42, wherein said PC system microchip is connected to a hard disk drive controlled by said PC system microchip.

102. (New) The personal computer of claim 42, wherein said PC system microchip includes an electromechanical component of said personal computer.

103. (New) The personal computer of claim 42, wherein said PC system microchip includes active configuration of an integrated circuit of said microchip.

104. (New) The personal computer of claim 103, wherein said PC system microchip includes a field-programmable gate array.

105. (New) The personal computer of claim 42, wherein said network includes a network architecture to connect a plurality of personal computers, said network architecture being dynamically configured by said personal computers based at least in part on one of a processing requirement of a shared operation performed in said network and a data requirement associated with said shared operation.

106. (New) The personal computer of claim 42, wherein said PC system microchip includes a component which substantially provides an encryption function of said personal computer.

107. (New) The personal computer of claim 42, wherein said personal computer includes an encryption microchip.

108. (New) A method for parallel processing in a network including computers, comprising:

providing a personal computer comprising a personal computer (PC) system on a chip, said personal computer being substantially contained in a single PC system microchip, said personal computer including a plurality of microprocessors on said PC system microchip; and

participating, by said personal computer, in a shared operation involving at least said personal computer and another computer connected to said network.

109. (New) A personal computer configured to operate in a network including computers, comprising:

a plurality of microprocessors located on a single microchip;

a random access memory (RAM) substantially located on said microchip; and

a processing mechanism configured to function in a shared operation with another computer.

110. (New) The personal computer of claim 109, wherein each of said microprocessors has its own associated RAM located on said microchip.

111. (New) The personal computer of claim 109, wherein each of said microprocessors has access to a shared RAM located on said microchip.

112. (New) A method for parallel processing in a network including computers, comprising:

providing a personal computer, said personal computer comprising a plurality of microprocessors located on a single microchip, a random access memory (RAM) substantially located on said microchip, and a processing mechanism configured to function in a shared operation with another computer; and

participating, by said personal computer, in a shared operation involving at least said personal computer and a second computer connected to said network.

113. (New) A personal computer configured to operate in a network including computers, comprising:

a plurality of microprocessors located on a single microchip;

a random access memory (RAM) substantially located on said microchip;

a network communication mechanism located on said microchip, said network communication mechanism being configured to connect said personal computer to said network; and

a processing mechanism configured to function in a shared operation with another computer.

114. (New) The personal computer of claim 113, wherein said network communication mechanism comprises a modem.

115. (New) A method for parallel processing in a network including computers, comprising:

providing a personal computer, said personal computer comprising a plurality of microprocessors located on a single microchip, a random access memory (RAM) substantially located on said microchip, a network communication mechanism located on said microchip, said network communication mechanism being configured to connect said personal computer to said network, and a processing mechanism configured to function in a shared operation with another computer; and

participating, by said personal computer, in a shared operation involving at least said personal computer and a second computer connected to said network.

116. (New) A personal computer configured to operate in a network including computers, comprising:

a personal computer system on a chip,

said personal computer including a plurality of microprocessors substantially located on a microchip,

said personal computer including a random access memory (RAM) substantially located on said microchip,

said microchip including a system bus of said personal computer,

said microchip substantially providing a graphics function of said personal computer and a sound function of said personal computer,

said personal computer including a network connection mechanism configured to connect said personal computer to said network, and

said network including one of an Internet and an Intranet.

117. (New) A personal computer configured to operate in a network including computers, comprising:

a personal computer system on a chip,  
said personal computer including a plurality of microprocessors substantially located  
on a microchip,  
said personal computer including a random access memory (RAM) substantially  
located on said microchip,  
said microchip including a system bus of said personal computer,  
said microchip substantially providing a graphics function of said personal computer  
and a sound function of said personal computer,  
said microchip including a network connection mechanism configured to connect said  
personal computer to said network, and  
said network including one of an Internet and an Intranet.

118. (New) A personal computer configured to operate in a network including  
computers, comprising:

a personal computer system on a chip,  
said personal computer including a plurality of microprocessors substantially located  
on a microchip,  
said personal computer including a random access memory (RAM) substantially  
located on said microchip,  
said microchip including a system bus of said personal computer,  
said microchip substantially providing a graphics function of said personal computer  
and a sound function of said personal computer,  
said personal computer including an optical fiber network connection mechanism  
configured to connect said personal computer to said network, and  
said network including one of an Internet and an Intranet.

119. (New) A personal computer configured to operate in a network including computers, comprising:

a microchip,

said microchip including a microprocessor,

said microchip including a non-volatile memory component, and

said microchip including a digital signal processor (DSP).

120. (New) The personal computer of claim 119, wherein said personal computer includes a wireless network connection mechanism configured to connect said personal computer to an Internet.

121. (New) The personal computer of claim 120, wherein said non-volatile memory component includes a flash memory component.

122. (New) The personal computer of claim 121, wherein said personal computer includes a system which is substantially contained on said microchip.

123. (New) The personal computer of claim 122, wherein said personal computer includes a personal communication device.

124. (New) The personal computer of claim 123, wherein said personal communication device includes one of a telephone and a pager.



125. (New) A personal computer configured to operate in a network including computers, comprising:

- a microchip,
- said microchip including a microprocessor,
- said microchip including a non-volatile memory component, and
- said microchip including a wireless network connection mechanism configured to connect said personal computer to an Internet.

126. (New) A personal computer configured to operate in a network including computers, comprising:

- a microchip,
- said microchip including a plurality of microprocessors,
- said microchip including a non-volatile memory component, and
- said microchip including an analog communications component.

127. (New) A personal computer configured to operate in a network including computers, comprising:

- a microchip,
- said microchip including a microprocessor,
- said microchip including a flash memory component, and
- said microchip including a digital signal processor (DSP).

128. (New) A personal computer configured to operate in a network including computers, comprising:

- a microchip,

said microchip including a microprocessor,  
said microchip including a non-volatile memory component,  
said microchip including an analog communications component, and  
said microchip including active configuration of an integrated circuit of said  
microchip.

129. (New) A personal computer configured to operate in a network including  
computers, comprising:

a microchip,  
said microchip including a microprocessor,  
said microchip including a non-volatile memory component,  
said microchip including an analog communications component, and  
said microchip including a field-programmable gate array (FPGA).

[illegible]

DSL/CMC:nlh  
Enclosure: Appendix

30189447v1

By:

Reg. No: 28,872

Telephone: (703) 905-2126

19

## APPENDIX WITH MARKINGS TO SHOW CHANGES MADE

### IN THE SPECIFICATION:

Please replace the paragraph on page 1 with the following amended paragraph:

This application is a continuation of U.S. Patent Application No. 09/315,026, filed May 20, 1999, which [This application] receives the benefit of priority from provisional applications 60/134,552, filed May 17, 1999, 60/086,516, filed May 22, 1998, 60/086,588 filed May 22, 1998, 60/086,948, filed May 27, 1998, 60/087,587, filed June 1, 1998, and 60/088,459, filed June 8, 1998. [This application] U.S. Patent Application No. 09/315,026 is a continuation-in-part of U.S. Patent Application 09/213,875, filed December 17, 1998, which receives the benefit of priority of provisional application 60/068,366, filed December 19, 1997, and which is a continuation-in-part of U.S. Patent Application 08/980,058, filed November 26, 1997, which receives the benefit of priority of provisional application 60/066,415, filed November 24, 1997, provisional application 60/066,313, filed November 21, 1997, provisional application 60/033,871, filed December 20, 1996, provisional application 60/032,207 filed December 2, 1996, and provisional application 60/031,855, filed November 29, 1996. [This application] U.S. Patent Application No. 09/315,026 is also a continuation-in-part of PCT application PCT/US98/27058, filed December 17, 1998 and designating the United States. PCT/US98/27058 receives the benefit of provisional application 60/068,366, filed December 19, 1997. [This application] U.S. Patent Application No. 09/315,026 is also a continuation-in part of PCT application PCT/US97/21812, filed November 28, 1997 and designating the United States. PCT/US97/21812 receives the benefit of priority of provisional application 60/066,415, filed November 24, 1997, provisional application 60/066,313, filed November 21, 1997, provisional application 60/033,871, filed December 20, 1996, provisional application 60/032,207 filed December 2, 1996, and provisional application 60/031,855, filed November 29, 1996. PCT/US97/21812 is a continuation-in-part of U.S. Patent Application 08/980,058, whose

priority is discussed above. U.S. Patent Application No. 09/315,026 is also a continuation-in-  
part of U.S. Patent Application 09/085,755, filed May 21, 1998.

continued